



Weldon Spring Site Disposal Facility (Cell)



FACT SHEET

This fact sheet provides information developed by the former WSSRAP Community Relations Department to provide comprehensive descriptions of key activities that took place throughout the cleanup process at Weldon Spring, Missouri. This site is managed by the U.S. Department of Energy Office of Legacy Management.

With the April 24, 1997, ceremonial ground-breaking for disposal facility construction, the Weldon Spring Site Remedial Action Project (WSSRAP) moved into the final stage of cleanup, treatment, and disposal of uranium-processing wastes.

The cleanup of the former uranium-refining plant consisted of these primary operations:

- Demolition and removal of remaining concrete pads and foundations that supported the 44 structures and buildings on site
- Treatment of selected wastes
- Permanent encapsulation of treated and untreated waste in an on-site engineered disposal facility

In September 1993, a Record of Decision (ROD) was signed by the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Energy (DOE), with concurrence by the Missouri Department of Natural Resources (MDNR). Approval of the ROD cleared the way for detailed design and subcontracting of many construction-related activities. The ROD specified that WSSRAP conduct the cleanup, treatment, and disposal activities in accordance with applicable EPA, DOE, and State of Missouri regulations.

This was the second ROD granted WSSRAP under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The first one approved the methods for removing bulk waste from the Weldon Spring Quarry.

The disposal cell was constructed in the area formerly occupied by the Weldon Spring Uranium Feed Materials Plant production buildings. The 45-acre cell provides long-term isolation and management of waste materials. The high point of the cell is approximately 75 feet above the surrounding terrain.



Weldon Spring Disposal Cell – September 2002

The disposal cell was designed to deter the migration of contaminants and to remain stable for 1,000 years. To achieve this goal the following factors were considered:

- Exposed surfaces were engineered to resist long-term erosion potential and a precipitation event greater than has occurred in the recorded history of the region
- Side slopes and waste placement methods were designed to withstand a maximum credible earthquake (MCE) that considered the New Madrid fault system earthquake potential
- A geographic location about 1 mile from the nearest known ground trace of a capable fault, and a general siting with no capable faults within a 10-mile radius appearing to have experienced movement in the past 8,000 years
- Located in a geologically stable area with no significant potential for catastrophic collapse because of voids in the soil or bedrock
- Located outside a designated 100-year floodplain

Cell Components

The cell consists of

1. A base liner with Leachate Collection and Removal Systems designed to prevent leachate migration from the bottom of the cell.
2. Treated and untreated wastes placed and stabilized within the cell to support the cover system, reduce settling, minimize volume, and retard radon emissions.
3. The clean-fill dike, constructed of compacted clay soil material, surrounds the disposal facility to resist erosion, limit infiltration of moisture into the waste, minimize radon emissions, and reduce long-term maintenance.
4. The cover system armors the top of the cell, protecting it from erosion, infiltration, biointrusion, etc. It consists of multiple layers, including (from bottom to top) an infiltration/radon barrier of clay, a geosynthetic liner, a gravel drain, sand filters, and a mixture of cobbles.

Status of Disposal Facility

Final placement of waste in the disposal cell took place on June 3, 2001. The disposal cell contains approximately 1.48 million cubic yards of waste. The cap of the cell was completed at the end of the 2001 construction season; the “last rock” was placed on the cell on October 23, 2001.

Contacts

Documents related to the Weldon Spring Site are available on the DOE Office of Legacy Management website at <http://www.LM.doe.gov/land/sites/mo/weldon/weldon.htm>.

For more information about DOE Office of Legacy Management activities at Weldon Spring, contact

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